GENCORP
AEROJET

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4 August 1998

Mr. Wayne Praskins
United States
Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

Subject: Sampling of PRP Wells for Recently Detected Chemicals of Concern

Dear Mr. Praskins:

Aerojet has made numerous requests that EPA require sampling of PRP monitoring wells for the recently detected compounds Perchlorate, NDMA, and 1,4-Dioxane. We are baffled by EPA's reluctance to more fully define potential source areas for these compounds, to "close the contours" for these chemicals, and to fully characterize the plume so that an appropriate extraction plan for zone one control of the northern portion of the BPOU can be designed. As recently as my telephone conversation with you of 22 July 1998 EPA has declined to require such sampling. Following is a reiteration and expansion of the reasons for sampling of PRP wells. We believe these to be sound and compelling.

Perchlorate

Because of the potential widespread use of perchlorate, EPA cannot rule out that other BPOU PRPs are not a source of perchlorate. Had this chemical been identified a the time when site investigations were being conducted, surely EPA and the Regional Board would have required analysis by PRPs.

Perchlorate is used in several manufacturing and industrial processes other than solid rocket motor manufacturing. It is used as perchloric acid in a variety of metal surface preparation processes including etching. It is used to manufacture explosives and fireworks. Metal surface preparation was/is part of the process for numerous PRPs, named and unnamed throughout the BPOU. Aerojet has submitted substantial information that large quantities of fireworks were burned on the ground in the ALR landfill.

A review of the minimal data collected to date for perchlorate ion in groundwater indicates higher concentrations of perchlorate downgradient (southwest) of the Aerojet facility than found within Aerojet's facility. Sampling of PRP wells will improve our understanding of perchlorate sources and movement.

A review of perchlorate concentrations found in water supply wells by Stetsons Engineers reveals several scattered "hits" of perchlorate outside of the BPOU. These include Marada, Queen of the Valley Hospital, VHWG No. 4, and COV No. 2. The perchlorate found in these wells is obviously from local sources. If sources are scattered outside of the BPOU plume, it is reasonable to conclude that scattered sources also exist within the plume.

NDMA

NDMA is found or generated in a variety of industrial process. Aerojet has provided EPA with data summaries and reference citations showing that NDMA is found in a wide variety of substances. It is found in malted beverages, including beer. The compound is found in other food products and milk. NDMA is found in cutting oils. It is found in rubber and crytonitrite polymer products, high energy batteries, pesticides, cosmetics, detergents, dyes and is associated with the manufacture of these products. NDMA has been used as a industrial solvent, as an antioxidant, in lubricants and condensers to increase the dielectric constant, as a nematocide, as a softener for copolymers, as an inhibitor of nitrification in soil, and in active metal anode-electrolyte systems. NDMA may occur in soils where dimethylamine is applied and either nitrate fertilizers were applied or nitrite is present. NDMA is prepared by reaction of nitrous acid with dimethylamine. It can also be created by addition of acetic acid and sodium nitrite to dimethylamine Numerous named and unnamed PRPs have been/are involved in activities involving rubber and synthetic products, cutting oils, lubricants, pesticides, herbicides, and beer production. It is prudent to investigate any and all of these PRP's facilities for NDMA, particularly when consideration is being given to action levels in the low parts per trillion.

EPA should be aware that in 1989, associated with the Uniroyal Chemical site in Canada, NDMA at 2,000 µg/l (or 2,000,000 ppt) was found in the wastewater discharged from that site. The NDMA was being formed due to the presence of both sodium nitrite and dimethylamine which came from two different production processes.

Between 1985 and 1996 twenty monitoring wells located within the northern portion (Subarea 1) of the Baldwin Park Operable Unit (BPOU) were analyzed for NDMA. All analyses were performed by EPA method 8270 (GC/MS) with reporting limits ranging from 5 µg/L to 20 µg/L. Data for the wells in the BPOU are provided in Table 1. Obviously EPA believed it necessary to investigate for NDMA at American Cyanimid, California Amforge, Norac, and ALR and to employ the analytical tools available at the time. Now that analytical methods have improved and NDMA toxicity is a matter of even greater concern, EPA surely would want to resample using currently available tools.

The following industries or industrial processes are potential sources of NDMA:

- Azo dye manufacturing
- Rubber manufacturing (tires and other rubber)
- Tanneries (leather processing) - dimethyl amine sulfate
- Machine shops (cutting fluids)
- Cosmetics manufacturing (lotions, shampoos)
- Herbicide/nematocide - both manufacturing and application
- Production of alcoholic beverages (beer, whisky)
- Automobile manufacturing
- Foundries
- Fish processing industry
- Surfactant industries
- Chemical industry (production of dimethylamine)
- Plasticizer for acrylonitrile polymers
- Used in high energy batteries (metal anode - electrolyte syokins)
- Used in preparation of thiocarbonyl fluoride polymers

1,4-Dioxane

1,4-Dioxane is a specialty industrial solvent and an additive to other solvents. 1,4-Dioxane has been found in the Lante Well and in some downgradient monitoring wells. Its source is unknown. Although this compound appears not to be of major concern in the BPOU, it is prudent to define source areas and include this chemical in any area-wide sampling event.

General

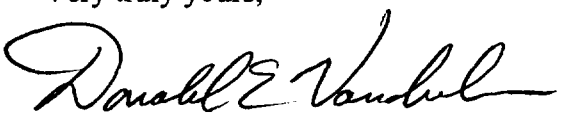
Continued sampling in the BPOU shows anomalies which point to difference sources of contamination. CTC is found deep in the downgradient aquifer where NDMA and perchlorate are not present. This suggests additional upgradient (northern) sources for CTC such as American Cyanamid, a documented major user of the compound. At a minimum, American Cyanamid should be required to construct a downgradient monitoring well that would more accurately assess groundwater migrating from its facility.

Potential source areas of NDMA, perchlorate and 1,4-Dioxane are not fully defined. It is not possible to even close the concentration contours for these compounds in the northern portion of the BPOU. It is currently not possible to develop an extraction plan that would provide confidence that chemicals released from source areas for these compounds would be "covered" by the zones of capture of the extraction wells.

Aerojet has sampled for perchlorate and NDMA and reported the results to EPA. We have been proactive in all of the Superfund activities in BPOU. Other companies have chosen not to be as forthright. Chemical sources exist elsewhere, Aerojet should not be penalized for its willingness to do what is right. Aerojet requests EPA direct sampling of PRP monitoring wells and develop a plan to define sources of these compounds throughout the BPOU.

Aerojet awaits your thoughtful consideration of our request and your early written response.

Very truly yours,



Donald E. Vanderkar

cc: SL Phinney, Aerojet
RC Anderson, Aerojet
GB Swanick, Aerojet
P Taft, Munger, Tolles & Olson
J Catts, Harding Lawson Associates

Table 1 - NDMA Concentrations in the BPOU

SITE ID	WELL ID	WELL ALIAS	FACILITY	SAMPLE DATE	VALUE	UNITS
V10AMMW1	V10AMMW1	MW-1	American Cyanamid	11/12/96	<15	ug/L
V10AMMW2	V10AMMW2	MW-2	American Cyanamid	11/11/96	<15	ug/L
V10AMMW3	V10AMMW3	MW-3	American Cyanamid	11/12/96	<15	ug/L
V10AMMW4	V10AMMW4	MW-4	American Cyanamid	11/12/96	<15	ug/L
V10CAMW1	V10CAMW1	MW-1	California Amforge	6/20/91	<5	ug/L
W10NCMW1	W10NCMW1	MW-1	Norac Corporation	11/23/94	<6	ug/L
W11AJMW1	W11AJMW1	MW-01	Aerojet	2/22/95	<10	ug/L
W11AJMW2	W11AJMW2	MW-02	Aerojet	2/22/95	<10	ug/L
W11AJMW3	W11AJMW3	MW-03	Aerojet	2/23/95	<10	ug/L
W11AJMW4	W11AJMW4	MW-04	Aerojet	2/23/95	<10	ug/L
W11AJMW5	W11AJMW5	MW-05	Aerojet	2/22/95	<10	ug/L
W11AZW01	W11AZW01	MW-1	Azusa Land Reclamation	11/22/93	<6	ug/L
W11AZW02	W11AZW02	MW-2	Azusa Land Reclamation	11/22/93	<6	ug/L
W11AZW03	W11AZW03	MW-3	Azusa Land Reclamation	2/20/95	<5	ug/L
W11AZW06	W11AZW06	MW-6	Azusa Land Reclamation	3/29/95	<5	ug/L
W11AZW08	W11AZW08	MW-8	Azusa Land Reclamation	11/22/94	<5	ug/L
W11AZW09	W11AZW09	MW-9	Azusa Land Reclamation	2/20/95	<5	ug/L
W11AZW10	W11AZW10	MW-10	Azusa Land Reclamation	2/20/95	<5	ug/L
W11AZW1R	W11AZW1R	MW-1R	Azusa Land Reclamation	3/29/95	<5	ug/L
W11AZW2R	W11AZW2R	MW-2R	Azusa Land Reclamation	11/22/94	<5	ug/L